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Incubation and brooding of chickens. By M. A. Jull and A. R. Lee. Revised edition. Washington, U. S. Govt. print. off., 1941. 27p. U. S. Department of agriculture. Farmers' bulletin no.1538.

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Further study of the flow of air through porous media. By R. R. Sullivan. Journal of applied physics. v.12, no.6. June 1941. p.503-508. Streamline flow of air through highly porous wads of textile fibers is studied. Rate of flow is found to be twice as great for fibers parallel to flow as for fibers perpendicular to flow. Shape factors for channels through which flow takes place are determined and compared with those for ideal case of Emersleben. Problem of measuring specific surface of high porosity wads is discussed.

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Milk Cooling.

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Milk Houses.

Milk houses. American lumberman. No. 3204. May 17, 1941. p.24. Plans.

Milking Barns.

Milking barn. By Dean G. Carter and Keith Hinchcliff. Arkansas farmer. v.43, no.10. October 1941. p.15. Low cost, board of health approved unit designed by county agent and blue printed by state college engineer...feed storage separate.

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Ersatz fuels test French ingenuity. Automotive industries. v.85, no.6. September 15, 1941. p.32-33. French motorists now are experiencing grim repercussion of modern warfare while European military machines drain their gasoline supplies. Yet in unremitting and undaunted efforts they attempt to overcome the shortage. Mostly used is ersatz product called gazogene, presumably charcoal derivative. All trucks and buses have been changed over to substitute fuels. New device is Ghezzi carburetor, which permits use of either alcohol or gasoline.

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Plastics looms large as substitute for defense materials. Domestic commerce. v.28, no.1. July 3, 1941. p.20.

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Pumps for irrigation and drainage. In fifty-fourth annual report of Colorado agricultural experiment station, 1940-1941. Fort Collins, Colorado, 1941. p.51-52.

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Method of predicting the runoff from rainfall: Discussion. By Franklin F. Snyder. American society of civil engineers. Proceedings. v.76, no.10. December 1941. p.1935-1936.

Surface runoff determination from rainfall without using coefficients: Discussion. By W. I. Hicks. American society of civil engineers. Proceedings. v.76, no.10. December 1941. p.1925-1932.

Refrigeration.

Fifty years of refrigeration in the egg and poultry industry. By M. E. Pennington. Ice and refrigeration. v.101, no.1. July 1941. p.45-48. Article gives authentic and graphic sketch of various uses of refrigeration by poultry industry and its development during last fifty years.

Recent developments in absorption refrigeration. By Glen Miller. Heating, piping and air conditioning. v.13, no.10. October, 1941. p.655-658.

Refrigeration. Compiled and arranged by Major Jesse H. White. Philadelphia, Pa., Quartermaster school, Schuylkill arsenal, 2620 Grays Ferry road, 1940. 108p. Quartermaster corps. United States army. Subsistence bulletin no.21.

Refrigerators.

Twenty-five years of household electric refrigerator development. By Glenn Muffly. Ice and refrigeration. v.101, no.1. July 1941. p.38-43. This review of development of electric refrigerator, during last twenty-five years particularly, covers most thoroughly general developments of household mechanical refrigeration and brings out main points of special interest.

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M-day comes for agricultural research. By M. M. Kelso. Land policy review. v.4, no.12. December 1941. p.3-6. Writer asks what agricultural researchers can do to help win war and gives some answers.

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The separation of cream on the farm. By E. S. Guthrie. Revised editio Ithaca, N. Y., 1941. 22p. New York, Cornell university. Agricultural extension service. Extension bulletin no.131.

Silos.

Pit silo investigations. In fifty-third annual report of Georgia experiment station of the university system of Georgia for the year 1940-41. Experiment, Ga., 1941. p.76. Test was conducted to determine whether sweet potatoes and vines could be stored in pit silo and used for livestock feed.

Silt.

Formulas for the transportation of bed load: Discussion. By H. A. Einstein. American society of civil engineers. Proceedings. v.76, no.10. December 1941. p.1917-1920.

Pipe-line flow of solids in suspension. A symposium: Discussion. By H. A. Einstein. American society of civil engineers. Proceedings v.76, no.10. December 1941. p.1937-1938.

Snow Surveying.

Snow surveys. In fifty-fourth annual report of Colorado agricultural experiment station, 1940-1941. Fort Collins, Colorado, 1941. p.49-50.

Soil Moisture.

Uptake and retention of water by soil as determined by distance to a water table. By L. A. Richards. Journal of American society of agronomy. v.33, no.9. September 1941. p.778-786.
Purpose of paper is to present data showing rate at which several soils would absorb water and equilibrium moisture contents that would be obtained at soil moisture tensions corresponding to various distances from water table.

Soil Moisture. (Cont'd.)

Surface condition of soil and time of application as related to intake of water. By F. L. Duley and L. L. Kelly. Washington, U. S. Govt. print. off., 1941. 31p. U. S. Department of agriculture. Circular no.608.

Sprays and Spraying Equipment.

Potato diseases and their control. By T. P. Dykstra. Washington, U. S. Govt. print. off., 1941. 65p. U. S. Department of agriculture. Farmers' bulletin no.1881.

Power spraying outfits best for extensive weed control work. By E. G. Carn. Agricultural gazette of New South Wales. v.52, no.4. April 1, 1941. p.214-217. In New South Wales use of chemicals for control of weeds has been widely tested and method is rapidly increasing in popularity, especially where problem of control has assumed major proportions. Results obtained when using chemicals have been highly satisfactory, but unfortunately, little thought has been given to importance of employing right type of machinery in this highly specialized work. In European and American states much development has taken place in distribution of power units for chemical work on weeds, but in this country we have been struggling along with make-shift outfits and small hand-operated units, and this appears to be biggest handicap to effective control of weeds with chemicals. While hand-operated units are of some use for very small jobs, results are so disappointing when compared with those obtained when power sprays are used that every effort should be made forthwith to adopt power system. It is admitted that initial cost is larger, but in final analysis power spraying outfits are far more economical. Moreover, cost factor should not overshadow all other considerations; in case of some weeds quick thorough cover, only possible with power outfits, often means difference between complete failure and successful kill.

Standard of Living.

Family expenditures for furnishings and equipment: Five regions. By Day Monroe, Helen Hollingsworth, Margaret Perry and Maryland Y. Pennell. Washington, U. S. Govt. print. off., 1941. 212p. U. S. Department of agriculture. Miscellaneous publication no.436.

Storage of Farm Produce.

Apple harvesting and storage in British Columbia. By J. E. Britton, D. V. Fisher and R. C. Palmer. Ottawa, Canada, 1941. 39p. Dominion of Canada. Department of agriculture. Publication no.724. Farmer's bulletin no.105.

The commercial storage of fruits, vegetables, and florists' stocks. By Dean H. Rose, R. C. Wright, and T. M. Whiteman. Revised edition. Washington, U. S. Govt. print. off., 1941. 52p. U. S. Department of agriculture. Circular no.278.

Storage of Farm Produce. (Cont'd.)

Cooperative grain elevators in North Dakota and eastern Montana. By Harry E. Ratcliffe, Perry V. Hemphill and Harold F. Hollands. Washington, U. S. Govt. print. off., 1941. 58p. U. S. Department of agriculture. Farm credit administration. Bulletin no.43.

Low cost potato storage. By J.B.R. Dickey. Pennsylvania farmer. v.125, no.11. November 22, 1941. p.3, 9.

Storage quality of the principal American varieties of onions. By Roy Magruder, R. E. Wester, H. A. Jones, T. E. Randall, G. B. Snyder, H. D. Brown and Leslie R. Hawthorn. Washington, U. S. Govt. print. off., 1941. 48p. U. S. Department of agriculture. Circular no.618.

Storage Houses - Heating.

The influence of electric heating systems on sweet potato storage house construction. By G. H. Dunkelburg. In 42nd annual convention of association of southern agricultural workers. Proceedings. Raleigh, N. C., Capital printing co., 1941. p.79-80.

Influence of electric heating systems on sweetpotato storage construction. By G. H. Dunkelberg. Agricultural engineering. v.22, no.6. June 1941. p.221-222, 225.

Sugar Cane.

Surveyor and the law: Discussion. By Messrs. E. F. Chandler, Harry Rubey, William H. Richards, Jr. and C. B. Humphrey. American society of civil engineers. Proceedings. v.67, no.8. October 1941. p.1505-1510.

Summer Houses.

We design a multi-purpose shelter. House & garden. v.79, no.2. February 1941. p.48. Complete directions for building a simple unit of floor, posts and roof, adaptable to many uses.

Surveying.

Miniature system of first-order alinement and triangulation control. By Floyd W. Hough. Transactions of American society of civil engineers. v.106. New York, 1941. p.666-684. Paper no.2112. Purpose of work described in paper is to develop suitable means for measuring, from time to time, direction and amount of any horizontal movements that may occur in various monoliths of dam to supplement data obtained from strain gages installed in dam, and to determine ground movements in surrounding area. Such movements may be caused by deformation of bed due to reservoir load, by load on dam, temperature changes, isostatic disturbance in vicinity of the dam, or by combination of such forces.

Surveying. (Cont'd.)

Surveyor and the law: Discussion. By D. D. Haines. American society of civil engineers. Proceedings. v.76, no.10. December 1941. p.1968-1970.

Swine Houses and Equipment.

Four types of hog houses: Modified A-Type and combination-roof in single and double units. By J. C. Wooley and K. B. Huff. Columbia, Missouri, 1941. 8p. Missouri. Agricultural extension service. Circular no.436.

Tennessee Valley Authority.

The armament of a democracy. Address by David E. Lilienthal, director, Tennessee valley authority, before Commonwealth club of California, San Francisco, Calif., November 29, 1940. Knoxville, Tenn., 1940. 17p. Mimeographed. Tennessee valley authority.

Some administrative aspects of regional planning in the Tennessee valley. Paper presented by Gordon R. Clapp, General manager, Tennessee valley authority, at Sectional meeting on "Governmental aspects of national planning"--joint meeting of American political science association and American society for public administration, Chicago, Ill., December 30, 1940. Knoxville, Tenn., 1940. 22p. Mimeographed. Tennessee valley authority.

Textile Fibers.

"Mystery" fiber now produced in Florida. By Bert Livingston. Florida grower. v.49, no.12. p.5, 8-9. Machinery and processes for mass production of ramie fiber are expanded to meet national need.

Preliminary report of observations on ramie. By Howard S. Reed. Sugar news. v.22, no.10. October 1941. p.354-355.

Textiles.

Latest noninflammable fabric is produced from dried seaweed. Popular mechanics magazine. v.76, no.1. July 1941. p.39. Alginic acid, which makes up about 20 to 30 percent of dried seaweed, can be extracted, combined with inorganic material in form of compounds called alginates, and then spun through spinnerettes, like those used in making rayon, into solution of acid. Without addition of inorganic material fibers would dissolve in soap and soda solutions, and hence would be useless as textiles. It is said that new fabric can be soaked in gasoline and gasoline burned away, leaving fabric unaffected.

Textiles from milk. Pennsylvania farmer. v.125, no.11. November 22, 1941. p.16.

Tides.

Report on earth tides, 1936-38. By Walter D. Lambert. Washington, U. S. Govt. print. off., 1940. 24p. U. S. Department of commerce. Coast and geodetic survey. Special publication no.223.

Tobacco.

Some of the practical needs of tobacco housing facilities in southeastern United States. By J. M. Carr. In 42nd annual convention of association of southern agricultural workers. Proceedings. Raleigh, N. C., Capital printing co., 1941. p.80-81.

Tractors.

Farm tractor needs special winter care. By C. N. Hinkle. Wisconsin agriculturist and farmer. v.68, no.21. October 18, 1941. p.12, 31.

Tractor authorities cite need for winter conditioning. National petroleum news. v.33, no.41. October 8, 1941. p.24, 26, 28.

Winter....tractors need change-over too! National petroleum news. v.33, no.41. October 8, 1941. p.23-24.

Transportation, Cost of

Cost of transporting milk and cream to Boston. By L. T. Sonley. Burlington, Vt., 1940. 56p. University of Vermont and state agricultural college. Vermont agricultural experiment station. Bulletin no.462.

Ultra-Violet Rays.

Comparison of S-4 type sun lamps and cod-liver oil as a source of vitamin D for poultry. By D. C. Kennard and V. D. Chamberlin. Wooster, Ohio. p.157-165. Ohio. Agricultural experiment station. Bimonthly bulletin, v.25, no.207. November-December 1940.

Sunlamps for poultry. By D. C. Kennard and V. D. Chamberlin. Bimonthly bulletin. Ohio. Agricultural experiment station. v.26, no.213. November-December 1941. p.177-182.

Ultra violet vs. cod liver oil. By D. C. Kennard. Electricity on the farm. v.14, no.9. September 1941. p.8-9.

Walls.

Structural, heat-transfer, and water-permeability properties of five earth-wall constructions. By Herbert L. Whittemore, Ambrose H. Stang, Elbert Hubbell, and Richard S. Dill. Washington, U. S. Govt. print. off., 1941. 55p. National bureau of standards. Building materials and structures. Report BMS78.

Waste Products.

Tillage and crop residue management. By L. S. Carter. Soil conservation. v.7, no.7. January 1942. p.155-158,173.

Water Purification.

Public water supplies and control of stream pollution in Ohio. By F. H. Waring. Columbus, O., 1941. 24p. Ohio. Engineering experiment station. Circular no.41.

Water treatment. By G. V. James. New York, Chemical publishing co., inc., 1941. 224p. Comprehensive treatise on the treatment of water for all purposes and effluents purification, sterilization, coagulation, filtration, storage of industrial and domestic water.

Water Supply.

El efecto de la desforestacion en el regimen de los rios. By A. Garcia Quintero. Mexico, D. F., 1941. 12p. Conision nacional de irrigacion. The effect of deforestation in river sections.

Investigations of methods and equipment used in stream gaging. By C. H. Pierce. Washington, U. S. Govt. print. off., 1941. 75p. U. S. Department of the interior. Geological survey. Water-supply paper no.868-B. Part 2. Intakes for gage wells.

Measurement of water. In fifty-first annual report of the Arizona agricultural experiment station for the year ending June 30, 1940. Tucson, Ariz., 1941. p.32.

Soil conservation helps to protect water supply. By Amiel Reichstein. Public works. v.72, no.12. December 1941. p.33-35.

Surface water supply of the United States, 1939. Washington, U. S. Govt. print. off., 1941. 603p. U. S. Department of the interior. Geological survey. Water-supply paper no.871. Part 1. North Atlantic slope basins.

Water management for the farm. By M. W. Clark and J. C. Wooley. Columbia, Missouri, 1941. 11p. Missouri. Agricultural extension service. Circular no.433.

Water Supply. (Cont'd.)

Water supply on upper Salt river, Arizona. By John Girand. Transactions of American society of civil engineers. v.106. New York, 1941. p.398-415. Paper no.2106. Presented in paper are data and methods used to determine economical storage requirements and power outputs of proposed hydroelectric plant on Upper Salt River, Arizona. Gaging station at project site had only been in operation for a few years, necessitating correlation of data which covers longer period of time, including other stream-gage records, rainfall records, and tree-ring measures. After hydrograph of river flows had been constructed, storage requirements and power output of plant were estimated by new method involving construction of probable future hydrograph, based on laws of probable occurrence and well defined trends of long-period variations in river flows. Due to greater value of water in semi-arid regions, particularly in periods of low flow, special treatment has been given to drought periods involving methods of probable sequence of drought years.

Water Supply, Rural

Farm can have water at low cost. Washington farmer. v.66, no.20. September 25, 1941. p.14.

Weeds.

Effect of ensiling on the viability of weed seeds. By J. W. Zahnley and J. B. Fitch. Journal of American society of agronomy. v.33, no.9. September 1941. p.816-822. Interest in problems pertaining to weed control has increased materially in recent years. Various means by which weeds are disseminated logically should be one of first phases of problem to be studied. Seed laws have aided in checking spread of weeds in impure crop seed, but much less has been accomplished with reference to feeding stuffs. Means of devitalizing weed seed in feed for livestock have in main been unsatisfactory. Use of silo has raised question as to effect of ensiling process on viability of weed seeds produced with silage crop. Investigations covering period of seven years, 1927 to 1933, inclusive, are reported herein.

Weed seed studies. In sixtieth annual report for the fiscal year ended June 30, 1941, with meteorological records for 1883 to 1940, inclusive. Geneva, N. Y., 1941. p.52. Cornell university. New York state agricultural experiment station. Comparison of kinds of weed seeds and rate of occurrence between samples voluntarily submitted and those taken on farms in farm-to-farm survey showed quite definitely that weed problem is being recognized by increasing number of farmers. Methods of farming as influenced by use of tractor, and harvesting by use of combine have their effect upon weed problem.

Weeds in Kansas. By Frank C. Gates. Topeka, Kansas, 1941. 360p. Report of the Kansas state board of agriculture, June, 1941.

Weirs.

Pressure-momentum theory applied to the broad-crested weir. By H. A. Doeringsfeld and C. L. Barker. Transactions of American society of civil engineers. v.106. New York, 1941. p.934-969. Paper no.2117. General theory of pressure momentum, and its application to broad-crested weir, is presented with data obtained by test. Purpose of experimental work was to check formula for flow over weir developed on basis of conservation of momentum. Application also applies to sharp-edged entrance to flumes from reservoirs

Wood.

Compression of wood. By E. G. Stern. Mechanical engineering. v.63, no.12. December 1941. p.916-918.

Plastic wood. By W. K. Loughborough. Agricultural news letter (Du Pont). v.9, no.6. November-December 1941. p.82-86. Emphasizes plasticizing properties of urea and also deals with mechanics of successfully bending treated wood.

Timber treated with chromated zinc chloride. Agricultural news letter (Du Pont). v.9, no.6. November-December 1941. p.87-88. Discusses treatment of wood with chromated zinc chloride to protect wood from decay and termite attack and to reduce fire hazard of structures in which treated wood is used. This development is of considerable importance in the National Defense program and, in addition, offers what amounts to "a new material for peacetime application."